

CHAPTER 2

CHINA'S TECHNOLOGY DEVELOPMENT AND IMPLICATIONS FOR THE U.S. DEFENSE INDUSTRIAL BASE

INTRODUCTION

This Chapter examines the trajectory of China's technology development and the implications this has for U.S. economic competitiveness and national security. It focuses in particular on the role that U.S. trade and investment plays in China's technology industries and the impacts China's advancements in these areas have on U.S. technological leadership and the U.S. defense industrial base. China's technology development has affected U.S. technology sectors at an unexpected pace and poses potential vulnerabilities to the supply of important components of the U.S. defense industrial base.

China's comprehensive and coordinated strategy for technology development guides the rapid pace by which it is establishing itself as a center of technology production and, increasingly, technology innovation. Through a mix of preferential trade and investment policies, government subsidies, and other policies favoring domestic industries and production, China has made the development of its technology sectors a national priority. Attracting U.S. and other investment into China has been an important component of this strategy, particularly where transfers of technology and know-how have accompanied this investment.

U.S. technology industry leaders have increasingly warned of the challenges that China and other developing economies pose to U.S. technology leadership and called for a national strategy to maintain U.S. technology competitiveness. They have made clear that technology leadership is vital to the long-term health of the U.S. economy and to U.S. military superiority.

Maintaining leadership in technological innovation is critical to U.S. national defense. The Department of Defense (DoD) has come to rely on the private sector for certain technology developments, while the private sector is moving offshore much of its industrial and technology production and some of its technology design and research and development. This is taking place concurrently with China's growing position at the center of the technology supply chain, raising the prospect of future U.S. dependency on China for certain items critical to the U.S. defense industry as well as vital to continued economic leadership.

The Department of Defense transformed its acquisition model to reflect the globalized nature of the defense industrial base. While the new model analyzes the availability of key technologies to maintain a strong defense, it may not adequately consider the long-term effects on the defense industrial base of the offshoring of

industries that, while not classified as critical technologies, nonetheless may impact defense and homeland security operations. Current developments in the software and integrated circuits industries are worrisome cases in point.